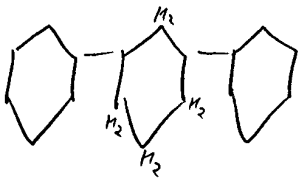
THERMINOL® 66 HEAT TRANSFER FLUID

...for use in liquid phase between 0-650°F without system pressurization

TECHNICAL BULLETIN (T-66)



PARTIALLY SATURATED TER PHENYL (MB-40)

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Organic Division / 800 N. Lindbergh Blvd. / St. Louis, Missouri 63166

FUNCTIONAL FLUIDS Monsanto

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Introducing Therminol® 66

Therminol® 66 is a heat transfer fluid for use in liquid phase between 0-650°F without system pressurization. The low pour point of this product permits start up at fluid temperatures as low as 0°F.

To minimize fluid oxidation, systems with Therminol 66 should be blanketed with an inert atmosphere. A system relief valve should also be provided. Therminol 66 is ideally suited to replace organic fluids that have lower boiling points and must operate under system pressure at 650°F.

Therminol 66 can support combustion and should not be confused with Monsanto's Therminol FR fire-resistant fluids.

TYPICAL PROPERTIES OF THERMINOL® 66

Composition	Modified terphenyls
Appearance	Oily liquid
Color	Practically colorless
Odor	Faint, characteristic
Pour Point	−26° — −28°C. −15° — −18°F.
Flash Point	168° — 180°C. 334° — 356°F.
Flame Point	190° — 202°C. 374° — 392°F.
Autoignition Temp.	364°C. 705°F.
Coefficient of Expansion	0.000741 cc/cc/°C.
Boiling Range	340° — 396°C 644° — 745°F

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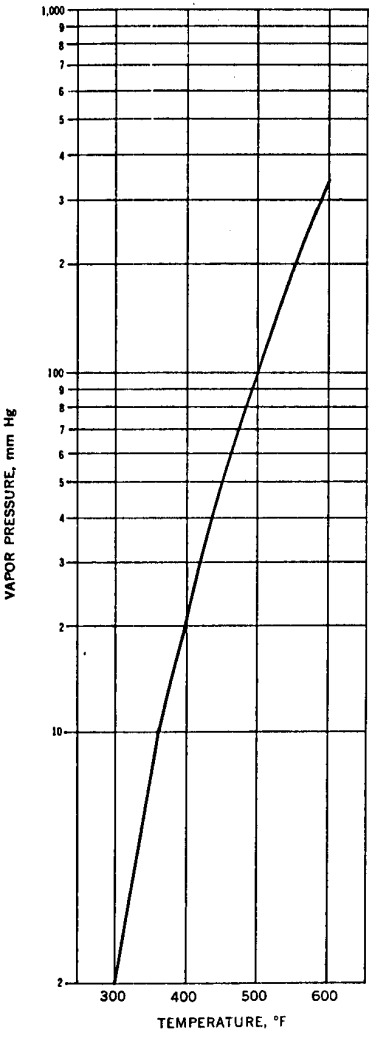
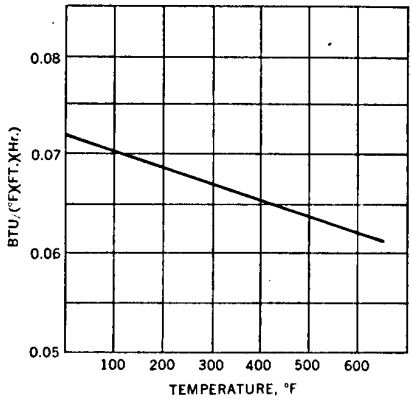
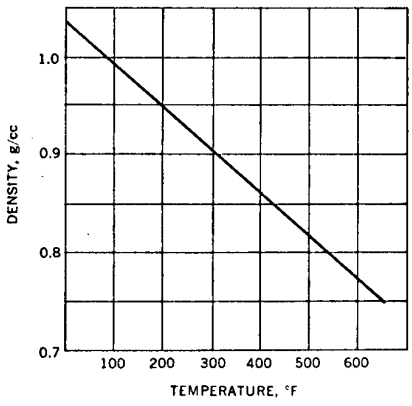
VAPOR PRESSURE



THERMAL CONDUCTIVITY (calculated)



DENSITY



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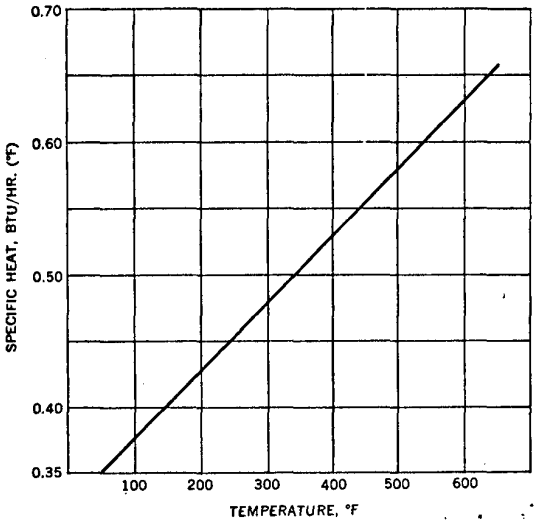
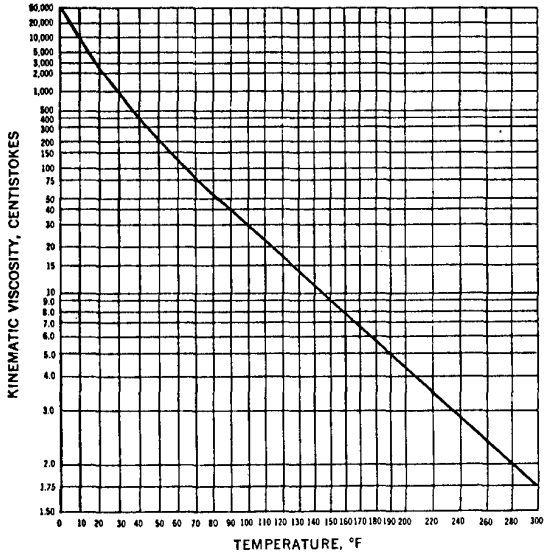
SPECIFIC HEAT



KINEMATIC VISCOSITIES



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THERMINOL® 66

PHYSICAL PROPERTIES

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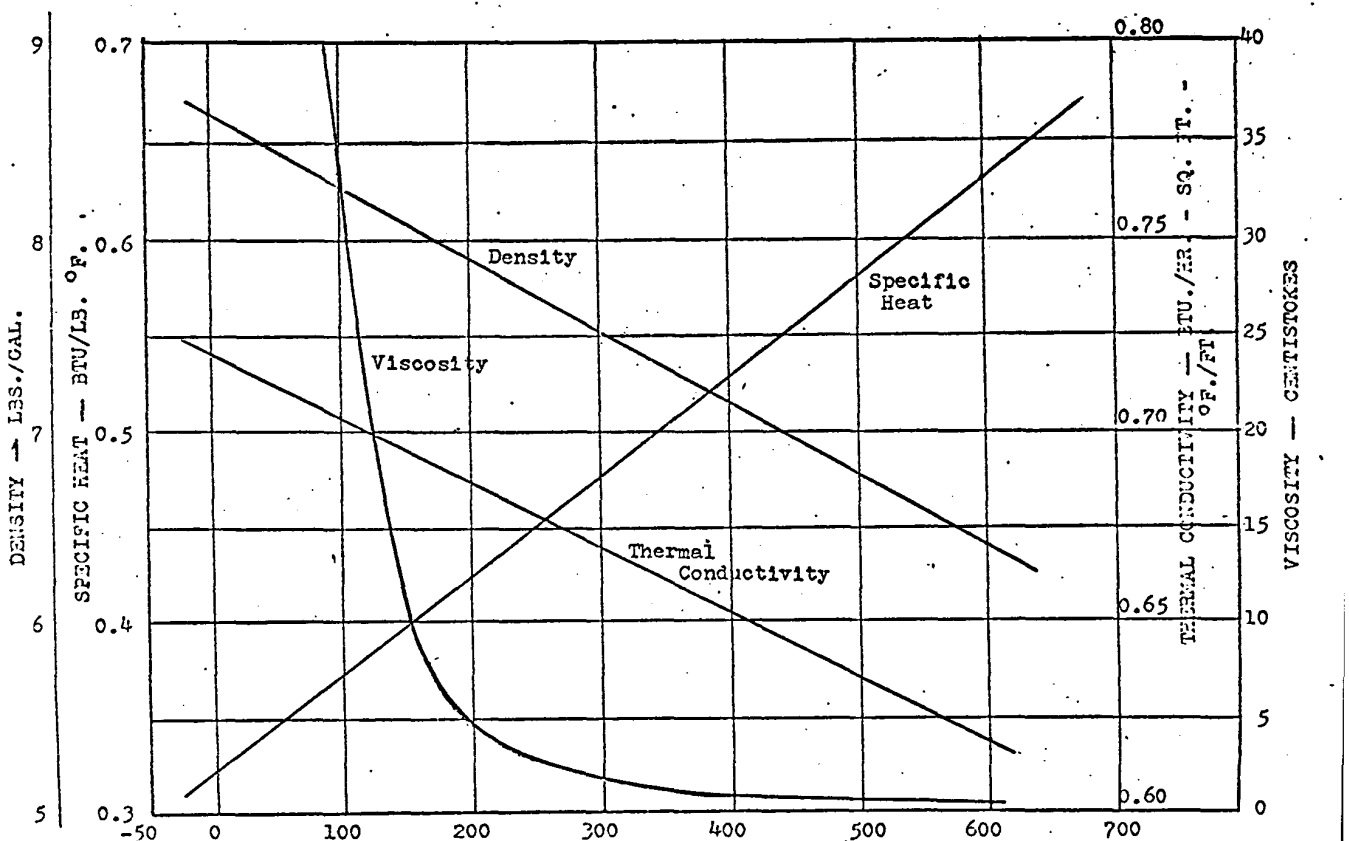

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THERMINOL 66

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VARIATION OF PROPERTIES WITH TEMPERATURE

Temperature		Density		Specific Heat		Thermal Conductivity		Viscosity		Vapor Pressure	
°F	°C	lb/gal	Kg/m^3	BTU/lb °F	Kcal/Kg °C	BTU/ft hr °F	Kcal/m hr °C	Cp	Cs	mmHg absolute	Kg/cm^2
0		8.67	1040	0.320	0.320	0.0720	0.1072	52000	50000		
50	10	8.51	1020	0.350	0.350	0.0711	0.1058	255	250		
100	38	8.34	1000	0.380	0.380	0.0703	0.1046	28.0	28.0		
150	66	8.14	975	0.405	0.405	0.0695	0.1034	9.75	10.0		
200	93	7.91	950	0.430	0.430	0.0687	0.1022	4.18	4.40	0.1	
250	121	7.77	930	0.455	0.455	0.0678	0.1008	2.42	2.60		
300	149	7.59	910	0.480	0.480	0.0670	0.0997	1.55	1.70	2.0	0.003
350	177	7.39	885	0.505	0.505	0.0662	0.0985	1.06	1.20		
400	204	7.17	860	0.530	0.530	0.0653	0.0972	0.77	0.90	20.0	0.027
450	232	7.04	840	0.555	0.555	0.0645	0.0959	0.58	0.69	50.0	0.068
500	260	6.75	810	0.580	0.580	0.0637	0.0948	0.45	0.55	100.0	0.136
550	288	6.62	793	0.605	0.605	0.0628	0.0935	0.36	0.46	200.0	0.272
600	316	6.42	770	0.630	0.630	0.0620	0.0923	0.34	0.44	350.0	0.476
650	343	6.24	750	0.655	0.655	0.0613	0.0912	0.27	0.36	760.0	1.034
700	371	6.09	730	0.680	0.680	0.0605	0.0900	0.20	0.28	1000	1.360

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THERMINOL 66

TYPICAL PHYSICAL, CHEMICAL AND THERMAL PROPERTIES

Composition	Modified terphenyl
Appearance	Clear yellowish liquid
Odor	Faint, oily
Coefficient of Expansion cc/cc/°C cc/cc/°F	0.00070 0.00039
Density at 25°C(77°F) kg/m^3 lbs/gal	1005 8.35
Boiling Range °C °F	340 - 396 644 - 745
Pour Point °C °F	-25 to -28 -15 to -18
Flash Point, Pensky-Marten (ASTM-D93-46) °C °F	179 - 180 354 - 356
Fire Point (Pensky-Marten) °C °F	190 - 200 374 - 392
Autoignition Temperature °C °F	374 705
Viscosity (cs) 100°F 200°F	28.0 [illegible]

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